LONG ISLAND BOTANICAL SOCIETY NEWSLETTER

November - December 1995 Vol. 5, No. 6

In This Issue

Larry Penny has written a timely article about the Pitch Pine on Eastern Long Island. Many of us watched news coverage as pines burned this summer. It is good to have news about the status of this important plant on Long Island.

Mindy Block, a student at SUNY Stony Brook has written about Observations on Upland Plant Associations in the Pine Barrens of Long Island. She records 8 distinct plant associations and there relative frequency.

Back by popular demand, **Eric Lamont** will present his talk on **Roy Latham** at the Southold Indian Museum, see page 38 for more info.

New Editor

With this issue I turn over the editorship of the LIBS newsletter to **Eric Lamont**. I have enjoyed the opportunity to create, edit and read this newsletter over the last four years. I want to thank the many authors for their contributions without which none of this would be possible. I want to thank particularly **Eric Lamont** who did a great job of getting authors and articles to me each month. Thanks-**Steve Clemants**.

PROGRAMS

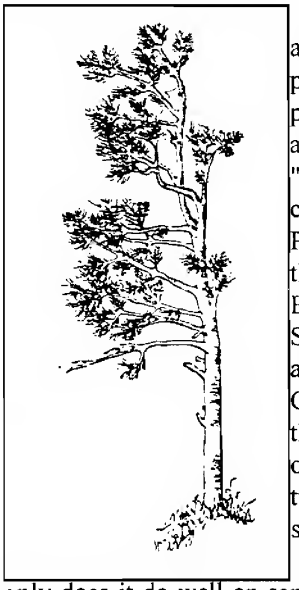
14 November 1995 - 7:30 pm, **Dr. KumKum Prabhakar**, "An introduction to embryo development in flowering plants." Uplands Farm Nature Center, Cold Spring Harbor. (For directions to Uplands Farm call 516/367-3225).

12 December 1995 - 7:30 pm, **John Heidecker**, "Wildflowers and other wildlife of Long Island." Museum of Long Island Natural Sciences, SUNY at Stony Brook (for directions to MOLINS call 516/632-8230).

PITCH PINE ON EASTERN LONG ISLAND

Summer is winding down, the drought continues. The horse chestnut leaves have browned to a near crisp. Tupelo leaves are already reddening in the swamps, and many other deciduous trees are less than green.

One tree stands out among the rest because its foliage is still green and full. You might say it's the Long Island tree - it's got to be one of the most prevalent species, and there are large tracts of land where it out numbers the other trees ten to one. However, it cannot be called the Long Island tree because it's a relative newcomer, and although it's widespread here - there are few places where it is missing - it has yet to arrive there.



The tree we're talking about, of course, is the pitch pine, *Pinus rigida*. It's the perfect tree for dry weather and poor soils. It's the "linchpine" of the newly created Long Island Forest Preserve, which covers thousands of acres in Brookhaven, Riverhead, and Southampton Towns, and, although the Father of our Country once called it "ill thriven," the pitch pine, of all our species, is the Long Island tree voted most likely to succeed.

It's the perfect tree. Not only does it do well on sandy soils poor in minerals and nutrients, it is an evergreen, is exceedingly drought resistant, is nearly insect and disease-proof, is a quick grower, gets tall, is tolerant of other woody species, provides food for wildlife, and is resistant to fire.

It's a perfect tree, yes, but outside of the wild, it's almost impossible to get. It's one of the few Long

Island natives that you can't find in a nursery or garden shop on Long Island. In fact, to get it, one has to go all the way to southern New Jersey.

And even in the Garden State - perhaps the one richest in pitch pines of all - only a few tree farms carry it. Thus we find a puzzling duality: the pitch pine is regal in nature, but lowly in American landscape circles.

It is so lowly that for more than a century now, all matter of foreign pines have been imported and promoted by government entities to fill the so-called void. First it was the Scots pine and Austrian black pine. In the last 40 years, it's been the Japanese black pine.

Among these government entities, the New York State Department of Environmental Conservation comes to mind. Up until a few years ago, it was not only promoting the species but selling it at cost, a few pennies for each seedling. The Japanese black pine was highly touted as a tree to be planted on waste ground and on maritime dunes.

None of these foreign pines has lived up to expectations. The Oriental species has turned out to be an absolute disaster. It was widely planted here on Long Island in every conceivable habitat, not just on dunes and seashores but in back yards, in fields, on estates, along major highways.

The black pine had several Achilles heels. It was readily stressed and weakened by northeasters and hurricanes. It was attacked by nematodes below the ground, tip moths and turpentine beetles above it.

One only has to drive along the Long Island Expressway or County Road 105 to see how poorly these trees are faring now. Very few are still healthy; most are browned or needleless. Many dead ones have already been removed.

More locally, the Beach Hampton community of Amagansett and Napeague has been the hardest hit. Forty years ago the former spot was covered with pitch pines. Most were cleared off for development, then replaced with Japanese pines. For a while the Japanese black pine thrived, and even made inroads into the native pitch pine stands of Napeague.

Over the years one could easily follow this spread by visual inspection: the exotic is dark green to bluish-green, the native is light green and yellowish-green. At the moment, the dead and dying black pines stand out among the pitch pines like sore thumbs.

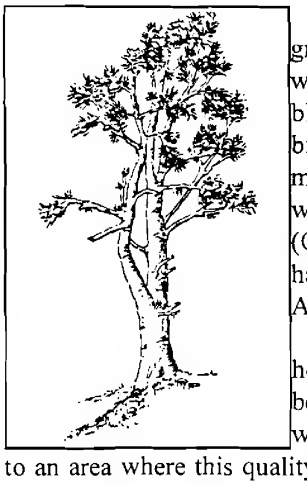
The pitch pine of Napeague, having survived this inroad by an introduced competitor, is making an inroad itself. Napeague is the jumping-off point for the final invasion objective. Extreme eastern Long Island is mostly free of these species.

On the North Fork, the pitch pine is relatively rare, but it has settled the lands around Mattituck Creek and some of those along the Peconics, all the way to Greenport. It has yet to get across the causeway into Orient in any big way.

It is also very scarce or completely missing from the eastern islands and peninsulas, including Robins Island, Shelter Island, North Haven, Gardiner's Island, Plum Island, and Fishers Island. It has yet to occupy Montauk, except for the extreme western part known as the Walking Dunes.

No wonder turn-of-the-century Montaukers planted exotic pines. Montauk was pineless!

Why did the pitch pine do so well on Long Island? It wasn't so much that it came to an empty land ripe for insemination. Quite the contrary. When the pitch pine arrived here from the South and West, probably by way of Staten Island and the expansive coastal plain linking New Jersey and Long Island that existed 5,000 to 8,000 years ago, it found a place completely grown over - if not by oaks and other hardwoods, then by white pines, shrubs, grasses, and forbs.



It may have been in the grasslands, not the woodlands, where the first pine nuts blown here or dropped by birds got started. The toehold may have been on soil in what is now called Brooklyn. (Queens is dominated by hardwood species from Appalachia).

Once started here, however, it would spread fast, because the pitch pines came with an extra-special quality to an area where this quality was lacking or in short supply. They had the gift of being fire-resistant. They survived wildfires, while the broad-leaved trees around them were killed or severely stunted by them.

Not only did the pitch pine survive the great holocausts that swept Long Island not infrequently, they thrived on them. After the fire, these pines were able to sprout needles from their trunks, from top to bottom. They used these new needles to step up photosynthetic output, in response to the greater amount of light that the burnt-over forest now let through.

Some of these sprouts went on to become new branches. Once the fire had passed, these pines dropped seeds that had been tightly locked in resin-sealed cones. The intense heat melted the resin and the seeds dropped on the newly naked ground, where they would germinate and grow rapidly in the absence of competing growth.

This scenario is still being played out. There's a spot in Wainscott along Daniel's Hole Road south of the railroad track that was hit hard by a May 1986 fire, presumably started by a passing train. (It occurred on

the same day that Hither Woods in Montauk caught fire.) The only big trees in this tract of land are pitch pines.

The oaks and hickories were destroyed by the fire; their scions, growing up from stump shoots, have produced a thickety understory. The lower trunks of the stately pitch pines here are still covered with a glaze of charcoal that adheres to any fingers touching it.

If you look at an overhead color photograph of this burn area, taken recently, at a time when the deciduous trees were bare, you see nothing but the solid green of intermingling pitch pine canopies. The adjacent areas immediately north of the tracks and south of Route 27 have correspondingly small amounts of this green, but large amounts of wintery brown and gray.

In plant ecology terms, we call the pitch pine a fire climax species. It is the one that most benefits from fires, and remains when the others have fallen.

The dwarf pines comprising the pygmy pine plains of Westhampton are the most fire-resistant of all. They have the tightest cones of all, and seem to need fire the most in order to do well over time.

It has been argued for New Jersey pinelands that pitch pine barrens need to burn over at least every 20 or 30 years to maintain a favorable balance of pitch pines to oaks, and that dwarf pine plains should burn over two to three times more frequently than barrens, as often as once every eight years on average. Pitch pine forests that have experienced burnovers at a rate less than once every 40 years become dominated by oaks.

The size of the pygmy pines is probably as much determined by genetics as by fire and soil and water factors. Side by side experiments indicate that seeds gleaned from the smaller pines grow considerably slower than ones taken from taller ones.

We know that the pine plains of Westhampton are quite old, at least 200 years old; Timothy Dwight wrote about them in the first decade of the 1800's. The pine plains of New Jersey and upstate New York are, no doubt, at least as old.

The pitch pines of East Hampton also seem to be of two kinds. The ones in Wainscott, Northwest, and Springs are typically tall and large of bole, while those in Amagansett, particularly those on dunelands, are much shorter. The former lose most of their lateral branches as they grow higher; the ones on the dunes tend to retain them.

Indeed, on the duniest spots, the lowest branches are often retained. These often are so low that they sometimes drag on the ground and become covered with drifting sand; in such cases they are the longest branches on the tree, extending out as much as 10 to 15 feet from the trunk, about the same distance as the canopies of 60-foot-tall pitch pines.

In other words, on these sand-based dwarfish pitch pines, the canopies are inverted; they're almost at ground level. The ground-hugging branches not only grab light and make food, they provide a kind of mulch that cuts down on the loss of soil moisture.

The expansion of the pitch pine on to the Napeague isthmus and across must be fairly recent. There is an 1846 U.S. Coast Service (later the Coast and Geodetic Service) map that shows some small pine stands, mostly in the Promised Land-Lazy Point parts of Napeague.

Presently, about one-third (the western third) of Napeague is covered in pitch pine forest. There are no pitch pines on Hicks Island at the north end of Napeague Harbor, nor are they on any of the wooded hummocks in Accabonac Harbor.

Pitch pines are almost lacking from the eastern two-thirds (the part of Napeague historically most frequently inundated by coastal flooding), but pick up again on the east side of Napeague Harbor. (The pines that we see on the south side of eastern Napeague, growing up in the dunes south of the highway, are volunteer Japanese black pines.)

Further east pitch pines again become frequent in the Walking Dunes, where they form thick stands, intermediate in height between mature Wainscott pitch pines and those of south Amagansett. From these dense stands, outliers have sprouted up in Hither Woods.

After the May 1986 fire which incinerated about 90 per cent of the woods, these outliers were obvious. One might have imagined that they would have taken advantage of the great fire to make a run for downtown Montauk and the downs and moorlands beyond, but they haven't.

An examination of Hither Woods now in the throes of reforestation gives no indication that the pitch pines are any more common now than before the fire. Just about every pine between Hither Woods and Montauk Point is a black pine.

While the islands of the Long Island archipelago - Montauk and Block Island should be considered among them - wait for their pitch pines, the species has managed to pull a flanking movement and pass right on by to populate New England, including Rhode Island and coastal Massachusetts to the north.

Whether it jumped Long Island Sound or went by way of Manhattan, the Bronx, and Connecticut to do so is still in question. It may be that Montauk Point and Block Island will ultimately be settled by pitch pines germinated from seed borne from Cape Cod and Martha's Vineyard, and not from Hither Woods stock.

Whichever the scenario, the pitch pine is on the move. There will come a day in the 21st century when it is in every quarter of the East End, including the nurseries and the garden shops.--**Larry Penny**

OBSERVATIONS ON UPLAND PLANT ASSOCIATIONS IN THE PINE BARRENS OF LONG ISLAND

Last year, for a graduate field ecology course at SUNY Stony Brook, I recorded the presence of various herbaceous species along roadsides and other disturbed areas in the central pine barrens of Long Island, New York. I discovered that some of these areas contained a very high diversity of native grasses and wildflowers with few or no weeds.

This led me to speculate on the occurrence of these native species prior to contemporary disturbances. Referenced speculation includes: they never occurred in such abundance in the central pine barrens, they occurred primarily in transition areas between pine barrens and beach, salt marsh, or prairies, or they occurred more frequently where Native Americans regularly managed areas with fire.

My realization was that historic and contemporary human influences have made the pine barrens not just an ecological landscape. It is also a cultural landscape. And thus the question in my mind becomes how do nature and culture intertwine to sustain the diversity of each? A question whose answer would have far reaching consequences to other ecosystems as well. Besides my concerns as to whether shrubs have overdominated herbaceous understory, other investigators question whether the canopy should be pine or oak dominated.

To improve my understanding of the pine barrens, I have for the moment disregarded such disturbance processes as fire, mowing, clearing, and grazing, and instead have asked: What are the upland pine barrens' plant associations, including any weedy ones, and their frequencies of occurrence? Hopefully this detailed knowledge could be matched against benefits (i.e., maintaining biodiversity, reducing fragmentation, wildlife enhancement), justifying management objectives.

Preliminary observations include the following upland pine barrens associations and their occurrence frequencies - Frequent (25-100), Occasional (10-25), Rare (1-10):

1. Forest community dominated by a tree canopy of pitch pine, occasional black oak, scarlet oak, and post oak. Understory: scrub oak and to a lesser extent blueberry, bayberry, sheep laurel, wintergreen and huckleberry. Scattered patches of reindeer moss, lichens, bearberry, and pennsylvania sedge. White oak and bracken fern noticeably absent. [Frequent]
2. Forest community dominated by a tree canopy of black oak, scarlet oak with some white oak and pitch pine. Low understory of blueberry and huckleberry and to a lesser extent staggerbush, scrub oak, bracken fern, sheep laurel. In some places white oak and bracken fern is missing, with sheep laurel occurring and wintergreen. [Frequent]
3. Forest community dominated by a pitch pine canopy and a ground cover of pennsylvania sedge, hair grass, heather, reindeer moss. [Occasional]
4. Barrens community dominated by scrub oak with pennsylvania sedge understory. [Occasional]
5. Barrens or woodland community dominated by young pitch pine with a grassy understory of Indian, poverty, little bluestem grasses, and colicroot, stiff aster, thoroughwort, goat's rue, bush clover, trailing clover, sickle leaved golden aster, lichens and some bearberry and blueberry. [Rare]
6. Shrubby barrens community dominated by scrub oak, dwarf oak, sweet fern, staggerbush, huckleberry codominant, only a few pitch pine, white oak, and scarlet oak. [Rare]
7. Open upland community dominated by grasses and herbs: poverty grass, pennsylvania sedge, purple love grass, lichens, bird's foot violet, wild lupine, goat's rue, wild indigo, flat-topped white aster, sickle leaved golden aster, gerardia, slender fragrant goldenrod, fern leaved false foxglove, pinweed, bluecurls, butterfly weed. [Rare]
8. Open upland community dominated by black oat grass, pennsylvania sedge, wild lupine, goat's rue, stiff aster, trailing clover, frostweed, and thoroughwort. [Rare]

--Mindy Block

Roy Latham Talk

Several LIBS members were unable to attend last year's program on the life and work of **Roy Latham**. **Eric Lamont** will once again present the program on Sunday, 19 November 1995, 2:30 pm, at the Southold Indian Museum. For more information and directions to SIM please call 516-765-5577.

Society News

September 12 Meeting

Skip Blanchard found *Euphorbia ipecacuanha* near Brookhaven. **Ray Welch** said he had found it in Suffolk. **Betty Lotowycz** and **Barbara Conolly** had found it in the Dwarf Pine Barrens near the Westhampton Air Base.

Eric Lamont found *Althaea officinalis* on Gardners Island. **Barbara Conolly** found it as a volunteer in her garden this summer and **Skip Blanchard** had found it at Kings Point and at Third Pond at Cold Spring Harbor.

Bob Laskowski announced that the Islip Town Nature Center wants to plant a Butterfly Garden. Any help we could give would be welcome.

Ray Welch said he had been in the Dwarf Pine Barrens after the fire recently, and watched Mourning Doves consuming the seeds of serotinous cones which were all over the ground. **Eric Lamont** commented that it was too bad that the entire Dwarf Pine Barrens wasn't burnt, as it needs it.

Eric Lamont reported that the Coastal Plains Ponds are at there lowest level since 1987. Peasey Pond, which has the rare sedge *Psilocarya scirpoides*, now has *P. nitens* as well. **Gary Kenner** added that amphibians and reptiles are starving in the Coastal Plains Ponds.

Ann Johnson, formerly of LI, but now with the Florida Natural Heritage Program in Tallahassee, compared of the species in certain genera between Appalachicola State Forest near Tallahassee and the east end of Long Island. Not too surprisingly, Appalachicola won with about twice as many species as Long Island.

Oct 10 Meeting

Tom Meoli has seen two large flowering chestnut trees but is unsure whether they are the correct species. **Eric Lamont** will investigate.

Jack Finkenberg of Great South Bay Audubon Society spoke about the Endangered Species Act, and asked us to phone or write our Congressmen to urge them to renew it without weakening it.

Eric Lamont has received calls concerning a proposed public golf course at Camp Hero in Montauk. The proposal is spearheaded by **Bernadette Castro** (NYS OPR) and the Concerned Citizens of Montauk are it. This area is important for migrating birds, contains a rare Holly-Oak Maritime Forest and is home to the rare Cranefly Orchid (*Tipularia discolor*).

Eric Lamont found Clammy Locust (*Robinia viscosa*) in Shinnecock Hills.

Sherman Wolfson showed slides of Long Island Orchids. Of the 35 species of orchids which were identified on LI, only 24 are still around. He deplored the mowing of the highways in Easthampton.

American Chestnut Foundation

The American Chestnut Foundation is currently researching and developing cures to combat the blight that has ravaged the American chestnut, Castanea dentata. Among the techniques being explored are selective hybridization, genetic engineering, and immunological control. The ACF is very interested in knowing the locations of flowering and fruiting American chestnuts on Long Island; if you have information please contact LIBS member Dr. **John Potente** at 516/232-1566 or 361-2102, or write to John at 659 Wheeler Road, Hauppauge, N.Y. 11788.

Large old trees of chestnut occurring in our are usually either Chinese chestnut (*Castanea mollissima*) or Japanese chestnut (*Castanea crenata*) which are blight-resistant, the former very much so. When not in leaf (when the glands on the under side of the Japanese chestnut readily distinguish it) the twig characters are a ready means of distinction: the Chinese chestnut having shoots of the year buff yellow and more or less downy, while the Japanese chestnut has a brown or red-brown twig, usually glabrous (sometimes with a few hairs). The European or Spanish chestnut (*Castanea sativa*), the nut now sold in the markets, also known as the Italian chestnut, is not usually hardy in our area, and also very susceptible to blight.-- **John Potente**

Executive Board Meeting

A meeting of the LIBS Executive Board will be held on 28 November 1995 at 7:15 pm (before the Flora Committee meeting), at Planting Fields Arboretum Library. All members are welcome to attend.

Field Trip Reports

16 September 1995-Breezy Point. Led by **Bob Cook** - An abundance of Purple Gerardia was seen.

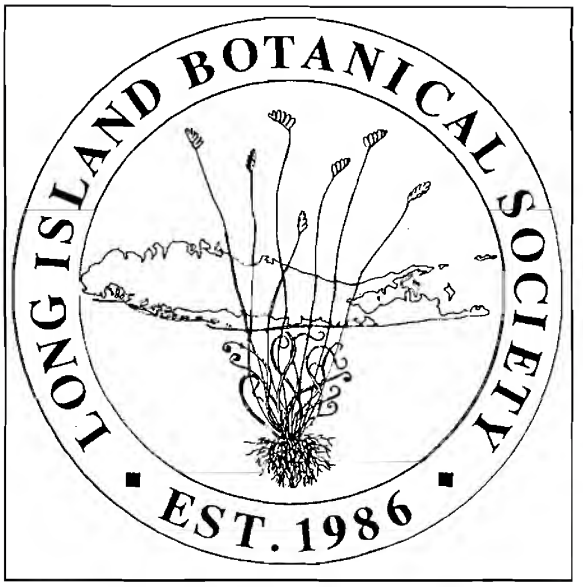
24 September 1995-Sandy Hook, New Jersey. More than 140 plant species were recorded on this field trip; highlights included Prairie Sunflower (*Helianthus petiolaris*), Nodding Smartweed (*Polygonum lapathifolium*), Camphorweed (*Heterotheca subaxillaris*), White-bracted Boneset (*Eupatorium album*), Late Boneset (*Eupatorium serotinum*), Small White aster (*Aster racemosus*), Fragrant Sumac (*Rhus aromatica*), American Bittersweet (*Celastrus scandens*), Ebony Spleenwort (*Asplenium platyneuron*), and Japanese Sedge (*Carex kobomugi*). Leader, **Karl Anderson;** recorders, **Barbara Conolly & Patrick Cooney**.

30 September 1995-Jamaica Bay. **Donald House** has a checklist of plants.

LONG ISLAND BOTANICAL SOCIETY
Founded: 1986; Incorporated: 1989.

The Long Island Botanical Society is dedicated to the promotion of field botany and a greater understanding of the plants that grow wild on Long Island, New York.

President	Eric Lamont . . . . .
Vice President	Steven Clemants . . . .
Treasurer	Carol Johnston . . . . .
Rec'rd Sec'y	Barbara Conolly . . . . .
Cor'sp Sec'y	Jane Blanchard . . . . .
Local Flora	Skip Blanchard . . . . .
Field Trip	Glenn Richard . . . . .
	Allan Lindberg . . . . .
Membership	Lois Lindberg . . . . .
Conservation	Louise Harrison . . . . .
	John Turner . . . . .
Education	Mary Laura Lamont . .
	Tom Stock . . . . .
Hospitality	Nancy Smith . . . . .
	Betty Lotowycz . . . . .
Program	Eric Lamont . . . . .
Editor	Steven Clemants . . . .



Membership

Membership is open to all, and we welcome new members. Annual dues are $10. For membership, make your check payable to LONG ISLAND BOTANICAL SOCIETY and mail to: Lois Lindberg, Membership Chairperson, 45 Sandy Hill Rd., Oyster Bay, NY 11771-3111

LONG ISLAND BOTANICAL SOCIETY
c/o Muttontown Preserve
Muttontown Lane
East Norwich, NY 11732